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The “Pre-Activity Movement Control Exercise Programme to Prevent Injuries in Youth Rugby”: Some Concerns

All efforts to reduce injuries in school rugby are welcome and the cluster randomised controlled trial by Hislop and colleagues’ deserves attention (1). Here, the authors presented a pre-activity exercise programme that trained strength, agility and balance, with reductions in time-loss injuries and concussions claimed. Yet, we highlight 5 primary concerns that arise from this study, which are particularly important given that the programme is now being implemented nationally (2).

Concern 1: Sample Characteristics

Hislop and colleagues contacted 220 potentially eligible independent schools of which 40 consented to participate. There were 20 schools in each of the intervention and control groups – although nine schools later withdrew (three intervention, six control). Only seven schools (four intervention, three control) adhered to the programme at the optimal compliance rate of three or more weekly sessions. Yet, no details are given of the characteristics and demographics of the participants or schools that withdrew from the study or those that demonstrated optimal compliance. Similarly, no information is provided on why schools withdrew from the study. As such, the generalisability of this study is somewhat limited.

Concern 2: Statistical (non)Significance

Hislop and colleagues calculated that to: “discern a 30% reduction in match injury incidence at 80% statistical power, 13 schools per trial arm were required.” Results indicated that there was no statistically significant difference between the intervention and control group when all injuries were considered. While the authors report reductions - which may be of clinical interest - for head and neck injury, concussion, and upper limb injuries, the reductions of between 28% and 34% in incidence of these injury types were all statistically non-significant (at $p < 0.1$).

Concern 3: Programme Adherence

The four schools with optimal compliance rate experienced a 72% reduction in match injury incidence and a 59% reduction in concussion incidence compared to the control group of three schools with optimal compliance rate, with both results statistically significant in this instance. Although these findings are promising, further questions need to be asked about

why the highly resourced independent school sample were largely unable to maintain the optimal compliance rate.

Concern 4: Feasibility in Physical Education

As many schools in the state sector have only two hours of physical education (PE) per week, inclusive of changing and administration time, delivery of the pre-exercise intervention three or more times per week is not feasible in this context. State funded secondary schools may also struggle to find the resources to deliver the intervention at the optimal compliance rate. Although the programme could be delivered twice per week in PE in schools, this dose did not result in any statistically significant reductions in injuries. Thus, we maintain our position on the need to apply the cautionary principle and remove the tackle from rugby in compulsory PE (3, 4, 5, 6).

Concern 5: National Implementation

As the Rugby Football Union (RFU) has: “roll[ed] out these findings across the community game and are developing training resources for clubs, schools and coaches” (2), the government should now commit funds for rigorous independent evaluation of this intervention with no conflicts of interest; eg the National Institute for Health Research or Medical Research Council. The protocol and evaluation plan should be made publicly available and all data open access for robust scrutiny. This evaluation should also provide information on the number of tackles pre- and post-intervention. In addition, this evaluation should consider whether or not the intervention effects are maintained on widespread implementation.

Conclusion

Hislop et al’s advice that: “further research is required to further understand the contexts into which the exercise programme would be implemented, as well as identifying what factors may facilitate or inhibit programme use” (1) should be heeded by policy makers seeking to implement the findings. While a shift in focus towards the primary prevention of injuries in rugby is welcome, this pre-activity exercise programme is not a sufficiently evidenced solution. Rugby tackling remains a risk and (collectively) more needs to be done to lower this risk. At present, removing the tackle remains the most effective mechanism for achieving this goal in compulsory PE rugby (7, 8).

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